

MATERIAL SAFETY DATA SHEET - CON-COIL™

MSDS0255

Ver. No.1

Ver. Date June 22, 2000

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Con-Coil™
PRODUCT CODES: 82622, 82624, 82628
CHEMICAL FAMILY: Inorganic Acids
USE: Condenser Coil Cleaner
MANUFACTURER / SUPPLIER
RectorSeal
2601 Spenwick
Houston, Texas 77055 USA

EMERGENCY TELEPHONE NUMBERS:

Chemtrec 24 hours: (800) 424-9300

RectorSeal: (713) 263-8001

NON EMERGENCY TELEPHONE NUMBERS:

Technical Service: (800) 231-3345

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS**APPROX:**

HAZARDOUS COMPONENTS	CAS NO.	%	OSHA PEL	ACGIH TLV	OTHER LIMITS	HMIS	NEPA
Phosphoric Acid	7664-38-2	12.28	1 mg/m3	1 mg/m3	3 mg/m3	H3,F0,R0	H3,F0,R0
Hydrofluoric Acid	7664-39-3	9.69	3 ppm	3 ppm	STEL 6 ppm	H4,F0,R0	H4,F0,R0
Glycol Butyl Ether	111-76-2	1.40	25 ppm	50 ppm	STEL 6 ppm	H2,F2,R0	H2,F2,R0

SECTION 3 HAZARDS IDENTIFICATION

SUMMARY OF ACUTE HAZARDS: Hydrofluoric acid is extremely irritating and corrosive to skin and mucous membranes. Speed in moving exposed personnel from contaminated area and in removing HF from skin or eyes is of primary importance. First aid must be started immediately, within seconds, in all cases of contact with hydrofluoric acid in any form. Inhalation of the vapor may cause ulcers of the upper respiratory tract. Concentrations at 50 to 200 ppm are dangerous. Hydrofluoric acid produces burns, which are slow in healing. The subcutaneous tissue may be affected, becoming blanched and bloodless. Gangrene of the affected areas may follow.

SYMPTOMS OF OVEREXPOSURE BY EYE OR SKIN CONTACT, INHALATION, OR INGESTION:

Conjunctivitis, corneal burns; severe skin burns with ulceration; pain behind the breastbone, cough, spitting blood, dyspnea, difficult breathing, bronchopneumonia, cyanosis, shock, muscle spasms, convulsions, jaundice, oliguria, albuminuria, hematuria, nausea, vomiting, abdominal pain, diarrhea; burns and corrosion of mouth, esophagus, stomach and small bowel. Inhalation over exposure may cause lung damage and pulmonary edema. Toxicity from pulmonary absorption of fluoride ion may develop in the liver and kidneys.

SUMMARY OF CHRONIC HAZARDS: Possible mutagen. Respiratory ulcers may occur. Skin injuries may result in gangrene.

ADDITIONAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Skin disorders, eye problems, impaired liver and kidney, or respiratory function.

SECTION 4 FIRST AID MEASURES

INHALATION: Exposed individuals should be carried at once into an uncontaminated atmosphere. Even in the absence of symptoms, a physician should be called immediately. If breathing has stopped, begin artificial respiration. If inhalation equipment and trained attendant are available, oxygen administration should be started at once. Patient should remain quiet - preferably lying down and kept warm and comfortable. As soon as possible, patient should be given 2.5% to 3% calcium gluconate solution by inhalation, preferably by intermittent positive pressure breathing (IPPB) using a nebulizer, or by nebulizer alone. The patient should be watched carefully for edema of the upper airway with respiratory obstruction. Delayed pulmonary edema is likely in patients with burns of the skin on the face or neck. If pulmonary edema develops, the patient should be placed in IPPB with positive end - expiratory pressure (PEEP). The administration of respiratory care should be closely supervised and performed by qualified personnel. Stimulants should not be given unless ordered by a physician. Under no circumstances should a patient be permitted to return home or back to work until thoroughly examined and discharged by a physician who is aware of the nature of his exposure.

EYE CONTACT: If even minute quantities of hydrofluoric acid enter the eyes, they should be immediately irrigated with running water for 5 minutes. The eyelids should be held apart during the irrigation to insure contact of water with all accessible tissue of the eyes and lids. Immediately following irrigation with water, a 1% calcium gluconate solution should be used to wash the eyes thoroughly for 5-10 minutes, and then instilled every 2-3 hours as drops. A physician, preferably an eye specialist, should be called in at once. No oils or oily ointment should be used unless ordered by the physician.

SKIN CONTACT: Workers who have had contact with hydrofluoric acid should be subjected immediately to a drenching shower of water. The clothing should be removed as rapidly as possible, even while the victim is in the shower, and medical assistance obtained immediately. It is essential that the exposed area be washed with copious amounts of water for a sufficient period of time to remove all hydrofluoric acid from the skin (5 Minutes). Calcium gluconate gel (2.5%) should be rubbed in continuously until pain has completely subsided. Personnel who apply the gel should be sure to wear rubber gloves to prevent skin contamination with the HF. Calcium gluconate gel is the preferred treatment but an alternative treatment is using an iced aqueous or alcoholic solution, 0.13% (1:750) of benzalkonium chloride (zephiran chloride); and iced 70% alcohol solution; or and ice-cold saturated solution of magnesium sulfate (Epsom salt) should be applied for at least 30 minutes. If the burn is in such an area that it is impractical to immerse the part, then the iced solution should be applied with saturated compresses, which should be changed at least every two minutes. The physician should be available by then to administer further treatment before completion of the iced solution treatment. However, if a physician is not available by that time, the treatment with one of the iced solutions should be continued for two to four hours. In cases of overexposure due to HF, as in skin burns of greater than approximately 25 sq. inches in area, hypocalcemia may be present. Therefore, systemic administration of calcium gluconate may be necessary. Frequent monitoring of serum calcium, renal and hepatic functions are necessary.

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SECTION 4 FIRST AID MEASURES CON'D.

INGESTION: Swallowing of hydrofluoric acid causes burns of the mucous membrane of the mouth, throat, esophagus and the stomach. The patient should be encouraged to immediately drink a large amount of water or milk with added milk of magnesia. Do not induce vomiting. Call a physician immediately.

SECTION 5 FIRE FIGHTING MEASURES**FLASH POINT:** None**FLAMMABILITY LIMITS:** LEL: N/A UEL: N/A**EXTINGUISHING MEDIA:** Foam, dry chemicals, CO₂, or water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained full-face piece breathing apparatus and other protective clothing. Hazardous decomposition products possible (see Section 10). Evacuate immediate area.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Material can generate explosive hydrogen gas on contact with certain metals and reacts violently with water. Runoff from fire control may cause pollution. Neutralize runoff with lime.

SECTION 6 ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Evacuate area and keep upwind until gas has dispersed. Dike spill. Dilute with water fog (direct application of alkali may cause violent splattering). Neutralize with lime. Persons not wearing protective equipment and clothing should be restricted from areas of spills or leaks until clean up has been completed.

SECTION 7 STORAGE AND HANDLING

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep container closed and upright when not in use. Do not store near heat, sparks, or open flames. This product will attack glass, concrete and certain metals. Store only in plastic containers. DO NOT USE METAL CANS.

OTHER PRECAUTIONS: Refrain from splashing product when pouring. Avoid all contact with skin or clothing. Empty containers may contain residues and vapors. KEEP OUT OF REACH OF CHILDREN.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION (SPECIFY TYPE): In confined, poorly ventilated areas, use NIOSH/MSHA approved air purifying or supplied air respirators.

VENTILATION - LOCAL EXHAUST: Acceptable.**SPECIAL:** N/A**MECHANICAL (GENERAL):** Acceptable.**OTHER:** N/A

PROTECTIVE GLOVES: Wear acid resistant gloves (neoprene, PVC, butyl rubber).

EYE PROTECTION: Full-face shield and chemical splash goggles (ANSI Z-87.1 or equivalent). NO CONTACT LENSES.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Acid resistant polyethylene coated coveralls.

WORK/HYGIENIC PRACTICES: Where use can result in skin contact, wash exposed areas thoroughly before eating, drinking, smoking, or leaving work area. Launder contaminated clothing before reuse.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**BOILING POINT:** >212 @ 760mm Hg**SPECIFIC GRAVITY (H₂O = 1):** 1.09**VAPOR PRESSURE (mm Hg):** 17 @ 68°F (20°C)**MELTING POINT:** N/A**VAPOR DENSITY (AIR = 1):** N/A**EVAPORATION RATE (ETHYL ACETATE = 1):** < 1**SOLUBILITY IN WATER:** Soluble**APPEARANCE/ODOR:** Clear pink liquid / Irritating odor**SECTION 10 STABILITY AND REACTIVITY****STABILITY:** Stable

CONDITIONS TO AVOID: Uncontrolled contact with water and active metals. Excessive heat will cause pressure build-up in container.

INCOMPATIBILITY (MATERIALS TO AVOID): Alkalies, most metals, cyanides, sulfides, glass and ceramics.

HAZARDOUS DECOMPOSITION PRODUCTS: Fluorides and hydrogen gas on contact with certain metals; these fumes can be highly corrosive.

HAZARDOUS POLYMERIZATION: Will not occur, however, non-hazardous endothermic polymerization may occur in both the liquid and gaseous phases.

SECTION 11 TOXICOLOGY INFORMATION**CARCINOGENICITY:****NTP:** No**IARC MONOGRAPHS:** No**OSHA REGULATED:** No**SUBSTANCE****CAS NO.****LD50****LC50**

Phosphoric Acid

7664-38-2

Oral-Rat LD50:1530 mg/kg

N/D

Hydrofluoric Acid

7664-39-3

N/D

Rat LC50:966 PPM/1H

Glycol Butyl Ether

111-76-2

Oral-Rat LD50:470 mg/kg

Inhalation-Rat LC50:2900 mg/m³**SECTION 12 ECOLOGICAL INFORMATION****SUBSTANCE****FOOD CHAIN
CON POTENTIAL****WATERFOWL TOXICITY****BOD****AQUATIC TOXICITY**

Phosphoric Acid

None

N/A

None

138 ppm/24 hr/mosquito fish/TLM

Hydrofluoric Acid

None

N/A

None

60 ppm/time period not specified/fish/lethal

Glycol Butyl Ether

None

N/A

26%

1000 ppm/24 hr/brine shrimp/TLM

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SECTION 13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: All federal, state and local regulations, regarding health and pollution must be followed. Aqueous hydrofluoric acid in limited quantities may be dumped into a trench containing sufficient lime to neutralize the acid. Soda ash may be used, but this will produce sodium fluoride, which is very toxic to warm-blooded animals. Small quantities of acid, in emergencies may be flushed down drains using large amounts of water to rinse and dilute it. Drains and sewers should then be neutralized with lime slurry to prevent deterioration of tile or metals by the acid. Waste anhydrous hydrofluoric, as a gas vented from storage tanks or processes should be conducted to an absorption system to prevent pollution of the atmosphere. Waste containing dilute hydrofluoric acid or fluorides in solution should be neutralized with lime.

SECTION 14 TRANSPORTATION INFORMATION

DOT: Corrosive Liquid, Acidic, Inorganic, N.O.S. (Hydrofluoric and Phosphoric Acid), UN3264, Class 8, PG II, ERG#154

OCEAN (IMDG): Corrosive, Liquid, Acidic, Inorganic, N.O.S. (Hydrofluoric and Phosphoric Acid), UN3264 Class 8, PG II, IMDG#8147-1, EMS#8-15

AIR (IATA): Corrosive Liquid, Acidic, Inorganic, N.O.S. (Hydrofluoric and Phosphoric Acid), UN3264, Class 8, PG II, ERG#154

WHMIS (CANADA): Class E

SECTION 15 REGULATORY INFORMATION

<u>SUBSTANCE</u>	<u>SARA 313</u>	<u>TSCA INVENTORY</u>	<u>CERCLA RC</u>	<u>RCRA CODE</u>
Phosphoric Acid	Yes	Yes	5,000 lb.	N/A
Hydrofluoric Acid	Yes	Yes	100 lb.	U134
Glycol Butyl Ether	Yes	Yes	N/A	N/A

SECTION 16 OTHER INFORMATION

This document is prepared pursuant to the OSHA Hazardous Communication Standard (29 CFR 1910.1200). The information herein is given in good faith, but no warranty, express or implied is made. Consult RectorSeal for further information: (713) 263-8001

